PUBLIC SERVICE COMMISSION
STATE OF MONTANA

1701 Prospect Avenue
PO Box 202601
Helena, MT 59620-2601
Voice: 406.444.6199
Fax #: 406.444.7618
http://psc.mt.gov
E-Mail: psc_webmaster@mt.gov

May 23, 2014

Charles Magraw
501 8th Avenue
Helena, MT 59601

RE: Data requests in Docket D2013.12.85

Dear Mr. Magraw,

Enclosed please find data requests of the Montana Public Service Commission to the Human Resource Council, District XI; and the Natural Resources Defense Council. The data requests are numbered PSC-355 through PSC-363 in the above-referenced Docket. Please begin the response to each numbered data request on a new page. Please provide responses by June 6, 2014. If you have questions, please contact me at (406) 444-6191.

Sincerely,

Neil Templeton
Regulatory Division
Montana Public Service Commission

Service Date: May 23, 2014

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

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IN THE MATTER OF NorthWestern Energy's Application for Approval to Purchase and Operate PPL Montana's Hydroelectric Facilities, for Approval of Inclusion of Generation Asset Cost of Service in Electricity Supply Rates, for Approval of Issuance of Securities to Complete the Purchase, and for Related Relief	))))	REGULATORY DIVISION DOCKET NO. D2013.12.85

DATA REQUESTS PSC-355 THROUGH PSC-363 OF THE MONTANA PUBLIC SERVICE COMMISSION TO THE HUMAN RESOURCE COUNCIL, DISTRICT XI; AND THE NATURAL RESOURCES DEFENSE COUNCIL

PSC-355

Regarding: Determined Variables
Witness: Power

On 5:20-22 you state: "The word 'deterministic' refers to the fact that this approach assumes that future values of various variables are known with certainty, i.e. there is no uncertainty about them."

Do you agree that deterministic modeling does not assume that future values are known with certainty but rather conditions model output upon a determined set of values for predictor variables rather than values drawn from probability distributions? Certainly the analyst will understand that a determined set of variables is drawn from a much larger set of all reasonable values for the predictors.

PSC-356

Regarding: NorthWestern's DCF Model
Witness: Power

On 22:24-29 you state: "Dr. Wilson, however, primarily relies on NWE's DCF modeling. This reliance solely on the more primitive valuing technique is useful to Dr. Wilson because it allows him to continue to act as if future electric market prices and natural gas prices are known with certainty …"

Do you agree that Dr. Wilson had much greater access to the DCF model than to the stochastic PowerSimm model, and that this advantage in access may have been a greater source of comparative utility to Dr. Wilson regarding the DCF model?

PSC-357

Regarding: Market Exposure Correlated to Hydroelectric Generation
Witness: Power

When asked whether there is "uncertainty about future electric market prices," you begin your reply, "Certainly. There is a monthly pattern of movement of those market prices across the year because of the heavy hydroelectric production during spring and early summer when the snowpack is melting" (3:6-10). In what sense would owning and operating Hydros insulate their owner from the risk of market volatility owing to hydroelectric generation? Would it not be the case that the Hydros would not be producing when other hydroelectric generation was not producing, and would be producing when other hydro generators were producing, thus creating a market exposure problem that parallels other hydroelectric generation owners, as they seek to dump surplus onto a depressed market, or seek high-cost gas-fired electricity when the Northwest is dry?

PSC-358

Regarding: Market Risk
Witness: Power

a. Do you agree, generally, that there are risks to buying and owning assets in a market that has many downward excursions, just as there are risks to buying power in a market that has many upward excursions?

b. The Pacific Northwest has continued to add generating resources as the federal government has subsidized renewables with the production and investment tax credits, and as states have mandated the construction of renewable energy generators—even when demand is flagging or even decreasing—leading to more and more supply to serve a demand that is stagnant. How should the Commission factor this consideration into its evaluation of "market risk"?

c. You represent in the table on page 4 of your testimony the "Historic Daily Mid-C Power Price and Sumas Gas Price." Aren't most utilities relatively insulated from daily volatility, even if they do not own resources, because they sign medium- or long-term power purchase agreements that insulate them from sudden increases and depressions in price?

PSC-359

Regarding: Projections' Coherence to Typical Market Behavior
Witness: Power

Whether in PowerSimm's analysis or in Mr. Stimatz's DCF analysis, or in Dr. Wilson's reworking of that analysis, the electricity price forecast surges suddenly in 2021 (or, in the illustrative scenario provided by Dr. Wilson, which you restate on p. 6 of your testimony, in 2031). In your experience, is this usually how long-term market prices look—slowly inclining prices, followed by a sudden surge, followed by slowly inclining prices from the post-surge baseline? Assuming it is not, how could the Commission create a more accurate glidepath that incorporates carbon pricing, but does not assume the all-at-once surge in market prices that appears to be central to NorthWestern's assumptions?

PSC-360

Regarding: Cost of Insurance
Witness: Power

You argue that utilities engage in an "insurance" strategy (9:29) to mitigate the risk of market purchases which, while they are projected to cost less over a period of time than a particular asset (like the Hydros), could end up costing more. Is there an equation or method that the Commission should bring to bear in calculating an acceptable value to that insurance policy? How would the Commission determine the point at which the insurance became too expensive for the risk it was attempting to mitigate?

PSC-361

Regarding: Terminology of Market Reliance
Witness: Power

a. When you discuss reliance on the market, what specific length of time do you imagine when you use the phrase "short-term purchases" (17:28)?

b. Why should a long-term PPA for a particular unit (such as Judith Gap) be considered a market source of supply?

c. Why should a long- or medium-term PPA for networked resources (such as the PPLM plants) be considered a "short-term purchase?"

d. Is there a risk that a false dichotomy is being drawn in this docket between a notion that utility-owned resources are the only rate-stable, secure resources versus everything else being lumped in under the aegis of volatile "markets"? Please explain.

PSC-362

Regarding: Alleged Stochasticity of Carbon Price Analysis
Witness: Power

At 19:14-19 you state: "[Stochastic analysis] does try to build the uncertainty about the values of the most important variables and an understanding of their frequency distribution directly into the evaluation of alternative electric supply portfolios. In that sense, more information is introduced into the modeling, allowing it to more accurately represent the resource supply decisions in the context of uncertainty."

a. Would you agree that forecast carbon prices is one of the most important variables in this resource analysis?

b. With respect to carbon prices, doesn't NWE's "stochastic" analysis simply reify a deterministically selected value which is placed in the middle of a triangular distribution, with equal distributions on either side of the deterministically selected value? In what sense is more useful information regarding past behavior of carbon prices introduced into the model using this probability distribution?

PSC-363

Regarding: NRDC Carbon Study
Witness: Power

a. Are you familiar with a study your client, NRDC, has conducted entitled "Cleaner and Cheaper: Using the Clean Air Act to Sharply Reduce Carbon Pollution from Existing Power Plants," the conclusions of which have been presented around the country, including at a recent Northwest Energy Coalition event in Helena, Mont., on May 2? (Available online at: http://www.nrdc.org/air/pollution-standards/)

b. Have you had an opportunity to review the carbon prices for the Pacific Northwest that NRDC claims would be necessary to achieve various carbon-reduction scenarios (e.g., Moderate Case Full EE, Moderate Case Constrained EE, Ambitious Case Full EE, Ambitious Case Constrained EE, Ambitious Case Constrained EE PTC"?

c. For each of those scenarios, how do the carbon prices your client projects would be necessary to achieve these large carbon reduces compare to the carbon price that NWE is forecasting in this proceeding?